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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,475	02/19/2002	Spencer Gold	SMQ-089/P6550	6691
959	7590	01/24/2005	EXAMINER	
LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109			SUN, XIUQIN	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/079,475

Applicant(s)

GOLD ET AL.

Examiner

Xiuqin Sun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17 and 19-29 is/are allowed.
- 6) ☒ Claim(s) 30-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 30-32 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (U.S. Pat. No. 6542846) in view of Gunther et al. (U.S. Pub. No. 2001/0021217).

Miller et al. teach a controller and method for monitoring a temperature of an integrated circuit (see Abstract), comprising the steps and means of: receiving a plurality of first values representative of a temperature of said integrated circuit (col. 4, lines 1-28 and col.4, lines 37-51); comparing said plurality of first values to a plurality of corresponding second values representative of a plurality of threshold temperatures (col.9, lines 9 and col. 10, lines 1-4); determining whether an over-temperature condition of said integrated circuit exists based on an output of said means and step for comparing (Fig. 5 and col.9, lines 9 and col. 10, lines 1-4). Miller et al. further teach: steps and means for determining a response to said over-temperature condition (col. 10, lines 5-30) and executing said response to said over-temperature condition (col. 10, lines 5-30).

Miller et al. do not mention: monitoring die temperatures of an integrated circuit; digitally filtering said output of said means for comparing before determining whether an over-temperature condition of said integrated circuit exists.

Gunther et al. teach an integrated on-chip thermal management system which has the functionality for monitoring die temperatures of an integrated circuit (section 0025). Gunther et al. further teach the step and means of digitally filtering the output of a thermal sensor before determining whether an over-temperature condition of an integrated circuit exists (sections 0035-0038 and 0050).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Gunther et al. with the invention of Miller et al. in order to provide on-chip temperature control at one or more die locations of an integrated circuit (Gunther et al., sections 0002, 0004, 0005 and 0010), wherein spurious signals can be dampened out or removed for accurate monitoring (Gunther et al., section 0036).

3. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. in view of Gunther et al., as applied to claims 30 above, and further in view of Ristic et al. (U.S. Pat. No. 5291607).

Miller et al. and Gunther et al. teach an apparatus and method that includes the subject matter discussed above. Miller et al. and Gunther et al. do not mention explicitly that: a microprocessor capable of reading said means for receiving a plurality of first values and communicating with said means for determining whether an over-temperature condition of said integrated circuit exists; and said microprocessor is

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capable of writing to said means for receiving a plurality of first values and verifies correct functioning of the controller.

Ristic et al. disclose a microprocessor having environmental sensing capability, and teach that: said microprocessor is capable of reading a plurality of first values representative of the sensed environment, and communicating with means for determining whether an undesirable condition of said environment exists (Fig. 1; col. 3, lines 21-32, lines 40-50 and col. 4, lines 50-63); and said microprocessor is capable of writing to said means for receiving a plurality of first values and verifies correct functioning of the controller (col. 4, lines 50-63).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Ristic et al. in the combination of Miller et al. and Gunther et al. in order to separate the environmental sensing devices from the microprocessor and utilize said microprocessor to process data generated by said sensing devices and in turn allow control of power loads of the environment based on sensed signals (Ristic et al., col. 31-67).

Allowable Subject Matter

4. Claims 1-17 and 19-29 are allowed.

Reasons for Allowance

5. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claims 1-17 and 19-29 is the inclusion of the limitation of a comparator response logic coupled to a comparator for determining in response to a comparison of said first value to said second value by the comparator whether an over-temperature condition in said integrated circuit exists. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Response to Arguments

7. Applicant's arguments received 12/20/2004 with respect to claims 30-38 have been considered but they are not persuasive.

The Applicant argued that "..... there is no motivation to combine the references in order to render the claimed obvious". This argument is not persuasive. The Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion; or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The Examiner further recognizes that the test for obviousness is not whether the features of a second reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, both of the two cited references (U.S. Pat. No. 6542846 to Miller et al. and U.S. Pub. No. 2001/0021217 to Gunther et al.) are directing to thermal management method and system for IC devices. In particular, the teachings of Miller et al. include

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receiving a plurality of first values representative of a temperature of selected integrated circuits (col. 4, lines 1-28 and col.4, lines 37-64) and comparing said plurality of first values to a plurality of corresponding second values representative of a plurality of threshold temperatures (col.9, lines 9 and col. 10, lines 1-4), while the teachings of Gunther include thermal management of microprocessors in which die temperatures at different die locations are monitored and compared against corresponding thermal design limits (section 0005). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Miller et al. with that of Gunther et al. in order to provide an on-chip thermal management system and method to perform closed-loop temperature control of an IC device at one or more die locations of the IC device (Gunther et al., Abstract).

Accordingly, claims 30-38 are rejected under 35 U.S.C. § 103(a), as detailed in sections 2 and 3 set forth above in this Office Action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (571)272-2280. The examiner can normally be reached on 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571)272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

XS 

January 19, 2005

Xiuqin Sun
Examiner
Art Unit 2863



John Barlow
Supervisory Patent Examiner
Technology Center 2800